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IS 7708 (1975): Vacuum flasks [CHD 10: Glassware]



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IS : 7708 - 1975

Indian Standard
SPECIFICATION FOR VACUUM FLASKS

(First Reprint JULY 1991)

UDC 666.171.8

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 2

August 1975

AMENDMENT NO. 1 JULY 1989
TO
IS : 7708-1975 SPECIFICATION FOR
VACUUM FLASKS

(*Page 4, clause 3.4*) — Substitute the following for the existing clause:

'3.4 Leak-Proofness — Assembled vacuum flask with refill half filled with cold water and stoppered, when shaken well for one minute vertically upside up, shall not show any leakage of water.'

(CDC 10)

Reprography Unit, BIS, New Delhi, India

Indian Standard

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double-walled glass container (called the refill); with the walls silvered and the space in between maintained under vacuum to reduce to a minimum the transfer of heat to and from the contents placed in it.

3. REQUIREMENTS

3.1 Materials

3.1.1 Refills — Refills used in the vacuum flasks shall conform to IS : 3702-1975*.

3.1.2 Outer Protective Case and Accessories — Outer protective case and accessories shall be of materials which shall be rigid enough to hold the refill securely under conditions of use and protect it from damage in normal handling.

3.1.3 The stopper of the refill shall be non-toxic, corrosion-resistant and durable. When fitted to the refill it shall not slip off and shall provide a leak-proof fitting.

3.1.4 The auxiliary closure(s), also intended for use as drinking cup(s), shall be non-toxic, corrosion-resistant and shall not deform under normal conditions of use.

3.2 Pattern — The outer protective case, auxiliary closures and components of vacuum flasks shall be of a pattern as agreed to between the purchaser and the supplier.

3.3 Workmanship and Finish — The outer protective case shall hold the refill securely by suitable supporting components at the base and the neck.

3.3.1 The component holding the neck of the refill shall be so designed as to prevent entry of any liquid into the space in between the protective case and the refill.

3.3.2 The ring and bottom of the protective case shall be lacquered on both sides and the body lacquered on the inside only for protection against corrosion. The body shall be suitably printed and varnished to protect the outside decoration.

NOTE — The protective case may also be made of materials other than tinplate provided they satisfy the requirements mentioned above.

3.3.3 Suitable handle or arrangement for suspension may be provided on a vacuum flask.

3.4 Leak-Proofness — Assembled vacuum flask with refill half-filled with cold water and stoppered, when inverted and shaken well for one minute, shall not show any leakage of water.

*Specification for refills for vacuum flasks (*first revision*).

3.5 Instructions for Use— Vacuum flasks shall carry adequate printed instructions to the user for its proper use to ensure satisfactory performance.

4. MARKING AND PACKING

4.1 Marking— Vacuum flasks shall carry on their outer protective case, or on some form of attachment, the name of manufacturer and his recognized trademark, if any.

4.1.1 Vacuum flasks may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4.2 Packing— Vacuum flasks shall be packed as agreed to between the purchaser and the supplier.

5. SAMPLING

5.1 The method of drawing representative samples of the vacuum flasks and criteria for conformity to this standard shall be as prescribed in Appendix A.

APPENDIX A

(Clause 5.1)

SAMPLING OF VACUUM FLASKS/REFILLS

A-0. GENERAL

A-0.1 This comprehensive, sampling scheme is meant both for vacuum flasks as well as refills when supplied separately (*see* IS : 3702-1975*). For leak-proofness, assembled vacuum flasks shall be tested. Tests for heat retention, resistance to thermal shock and limit for alkalinity shall be carried out on refills as prescribed in IS : 3702-1975*. Therefore, when testing assembled vacuum flasks, it will be necessary to take out the refills for tests applicable to them.

*Specification for refills for vacuum flasks (*first revision*).

A-1. SCALE OF SAMPLING

A-1.1 Lot — In a single consignment all the vacuum flasks or refills of the same type and capacity and manufactured under similar conditions, shall be grouped together to constitute a lot.

A-1.1.1 Each lot shall be separately examined for requirements prescribed in relevant standards.

A-1.2 Packages to be selected from a lot for drawing samples shall be chosen at random. In order to ensure the randomness of selection, procedures given in IS : 4905 - 1968* may be followed.

A-1.2.1 The required number of packages to be opened for drawing samples from a lot shall be as prescribed in Table 1.

TABLE 1 SAMPLING OF PACKAGES

No. OF PACKAGES IN THE LOT	No. OF PACKAGES TO BE OPENED FOR DRAVAL OF SAMPLES
(1)	(2)
Up to 10	2
11 to 50	5
51 ,, 200	10
201 ,, 500	15
501 ,, 1 000	20
1 001 and above	25

NOTE — The number of packages to be selected under col 2 of the table above is the minimum. In cases where it is not possible to obtain the required number of samples from the selected packages, further packages may be opened to obtain the prescribed number of samples of vacuum flasks/refills.

A-1.3 From each of the packages so chosen, approximately equal number of flasks/refills shall be drawn from different places so as to obtain the required number of samples.

A-1.4 The number of vacuum flasks or refills to be sampled from each lot shall depend on the size of the lot and shall be in accordance with Table 2.

*Methods for random sampling.

TABLE 2 SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY
(Clause A-1.4)

LOT-SIZE	VISUAL REQUIREMENTS					LEAK NESS, RETENTION AND THERMAL SHOCK TESTS	PROOF- HEAT TESTS	No. OF REFILLS FOR ALKALI- NITY TEST
	Sample No.	Sample Size	Cumu- lative Sample Size	Accept- tance No.	Rejec- tion No.			
						Sample Size	Accept- tance No.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Up to 500	First	20	20	1	4	5	0	1
	Second	20	40	4	5			
501 to 1 000	First	32	32	2	5	8	0	1
	Second	32	64	6	7			
1 001 „ 3 000	First	50	50	3	7	13	0	2
	Second	50	100	8	9			
3 001 „ 10 000	First	80	80	5	9	20	1	2
	Second	80	160	12	13			
10 001 „ 35 000	First	125	125	7	11	32	2	3
	Second	125	250	18	19			
35 001 and above	First	200	200	11	16	50	3	4
	Second	200	400	26	27			

A-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 The number of flasks/refills given for the first sample in col 3 of Table 2 shall be examined for visual requirements. A flask/refill failing in any of these requirements shall be considered as defective.

A-2.1.1 The lot shall be considered to have satisfied these requirements if the number of defectives found in the first sample is less than or equal to the corresponding acceptance number given in col 5 of Table 2.

A-2.1.2 The lot shall be rejected without further testing if the number of defectives found in the first sample is greater than or equal to the corresponding rejection number given in col 6 of Table 2.

A-2.1.3 In case the number of defectives found in the first sample lies between corresponding acceptance and rejection numbers, a second sample of the size given in col 2 and col 3 shall be examined for visual requirements. The lot shall be considered to have satisfied visual requirements if the number of defectives found in the cumulative sample is less than or equal to the corresponding acceptance number given in col 5 of Table 2, otherwise not.

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A-2.2 The lot having been found satisfactory according to **A-2.1** shall be simultaneously tested for leak-proofness, heat retention, thermal shock and alkalinity. For this purpose required number of flasks/refills shall be taken from those already examined and found satisfactory according to **A-2.1**.

A-2.2.1 The number of vacuum flasks to be tested for leak-proofness shall be as given in col 7 of Table 2. The lot shall be considered to have satisfied the requirement of leak-proofness if the number of defectives found in the sample is less than or equal to the corresponding acceptance number given in col 8 of Table 2.

A-2.2.2 The number of refills to be tested for heat retention shall be as given in col 7 of Table 2. The lot shall be considered to have satisfied the requirement of heat retention if the number of defectives found in the sample is less than or equal to the corresponding acceptance number given in col 8 of Table 2.

A-2.2.3 The number of refills to be tested for thermal shock shall be as given in col 7 of Table 2. The lot shall be considered to have satisfied the requirement of thermal shock if the number of defectives found in the sample is less than or equal to the corresponding acceptance number given in col 8 of Table 2.

A-2.2.4 The number of refills to be tested for alkalinity shall be as given in col 9 of Table 2. The lot shall be considered to have satisfied the requirements of alkalinity if no refill is found to be defective in the sample.

A-2.3 The lot shall be declared as conforming to the requirements of this specification if **A-2.1** and **A-2.2** are satisfied.

NOTE — If the requirements of a foreign buyer are more stringent or he designates a more rigorous AQL than provided by **A-2.1** and **A-2.2**, the agency shall take cognisance of the same for assessment of the quality of the consignments.

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